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动物分类学报

拟小豆螺属一新种记述 (中腹足目, 盖螺科)

程由注[1] 吴小平[2] 李莉莎[1]

1. 福建省疾病预防控制中心 福州 350001, E-mail: chengfz0591@163.com
2. 南昌大学生命科学学院 南昌 330031, E-mail: xpwu@ncu.edu.cn

摘 要 报道了采自福建三明的拟小豆螺属 1 新种, 唐氏拟小豆螺 *Pseudobythinella tangi* sp. nov., 并与近似种建欧拟小豆螺比较。该种螺为罕见医学贝类物种, 为斯氏并殖吸虫第 1 中间宿主。

关键词 盖螺科, 拟小豆螺属, 新种, 医学贝类.
中图分类号 Q959.212

拟小豆螺属 *Pseudobythinella* 是刘月英 (1979) 依据采自福建省建欧的小螺定的新属, 隶属于 螺科 (Hydrobiidae); Davis (1985, 1994) 根据拟小豆螺属贝壳形态和软体部分的解剖学资料, 将该属种类归于圆口螺科 Pomatiopsidae。但我国 (张玺、齐仲彦) 早期已有圆口螺科存在而重复, 而 Pomatiopsidae 的拉丁文原意则应译为盖螺科, 故特予修订。拟小豆螺属迄今在我国仅发现 4 种, 即建瓯拟小豆螺 *Pseudobythinella jianouensis*, 刘氏拟小豆螺 *P. liui*, 石门拟小豆螺 *P. shimenensis*, 三齿拟小豆螺 *P. triodonta*, 分别分布于福建、湖北、湖南、贵州和四川等省, 为我国罕见医学贝类物种。作者于 2004 年 12 月在福建省三明市郊区采集到一批拟小豆螺标本, 经鉴定为 1 新种, 并应用光镜和扫描电镜观察了该螺的贝壳和齿舌的形态特征。采集之时正值厦门大学隆重召开纪念唐仲章院士诞辰 100 周年大会, 故特命名为唐氏拟小豆螺。模式标本保存于福建省疾病预防控制中心寄生虫标本室。

唐氏拟小豆螺, 新种 Pseudobythinella tangi **sp. nov.** (图 1, 3~ 4)

正模: 壳高 1.638 mm, 壳宽 0.825 mm, 体螺层高 0.525 mm, 壳口高 0.575 mm, 壳口宽 0.663 mm。副模: 壳高 1.537~ 1.600 mm, 壳宽 0.768~ 0.837 mm, 体螺层高 0.500~ 0.750 mm, 壳口高 0.550~ 0.575 mm, 壳口宽 0.625~ 0.663 mm。

形态描述 贝壳微小, 外形呈圆柱形, 有 $3\frac{1}{2}$ 个螺层。体螺层与次体螺层增长迅速, 体螺层明显膨大, 其高度约占壳高的 $\frac{3}{5}$, 宽径与次体螺层的高略相等。壳顶圆钝。壳质薄, 较透明, 透过贝壳可见动物头部的眼点。贝壳浅灰白色或淡黄褐色, 颜色常与螺龄有关, 幼螺颜色浅, 成体颜色深; 壳面具微弱的生长线, 缝合线明显。壳口呈卵圆形, 周缘完整, 具有黑色框边; 下缘增厚, 略向壳口外扩张。脐孔窄小, 位于轴缘后方。厣长卵圆形, 前端稍窄, 角质, 极薄, 透明, 有不甚明显的螺旋形生长线, 厣内侧贴附于足肌上, 致使足不能全部缩入壳内。壳口内唇近中部有一裂缝, 而将内唇分为长、短两隆脊状齿。雄性生殖器呈弯指状, 位于颈部背侧。齿舌每一横列有 7 枚齿, 其中 1 枚中央齿, 左右各为 1 枚侧齿, 2 枚缘齿。齿式: $\frac{4-1-4}{1-2}$ • 4- 1- 4 • 19- 22 • 13- 15。中央齿上缘有 9 个尖齿, 中央 1 尖齿粗长; 其基部二侧各有 1 枚耙状基底齿, 中央基底齿 2 枚。侧齿上缘尖齿 9 个, 中央 1 尖齿尖长。内缘齿上缘有大小相近尖齿 19~ 22 个, 外缘齿上缘有大小相近尖齿 13~ 15 个。

解剖螺的活体标本发现, 该种螺为斯氏并殖吸虫第 1 中间宿主, 感染率为 0.137%。

标本采集地 三明市远郊区前村, 位于福建中部三明、永安、沙县三地交界的山, (26°08′N, 117°40′E)。周围为茂密的森林区, 海拔 703 m。

生境: 唐氏拟小豆螺栖息于山坡处地下渗水凹坑, 或水流缓慢的小水沟中, 沟底为石块、砂石、枯枝和落叶, 小螺多附着于石块、枯枝或烂叶片上。水的 pH 值为 6.2。

新种与近似种建欧拟小豆螺的区别见表 1。

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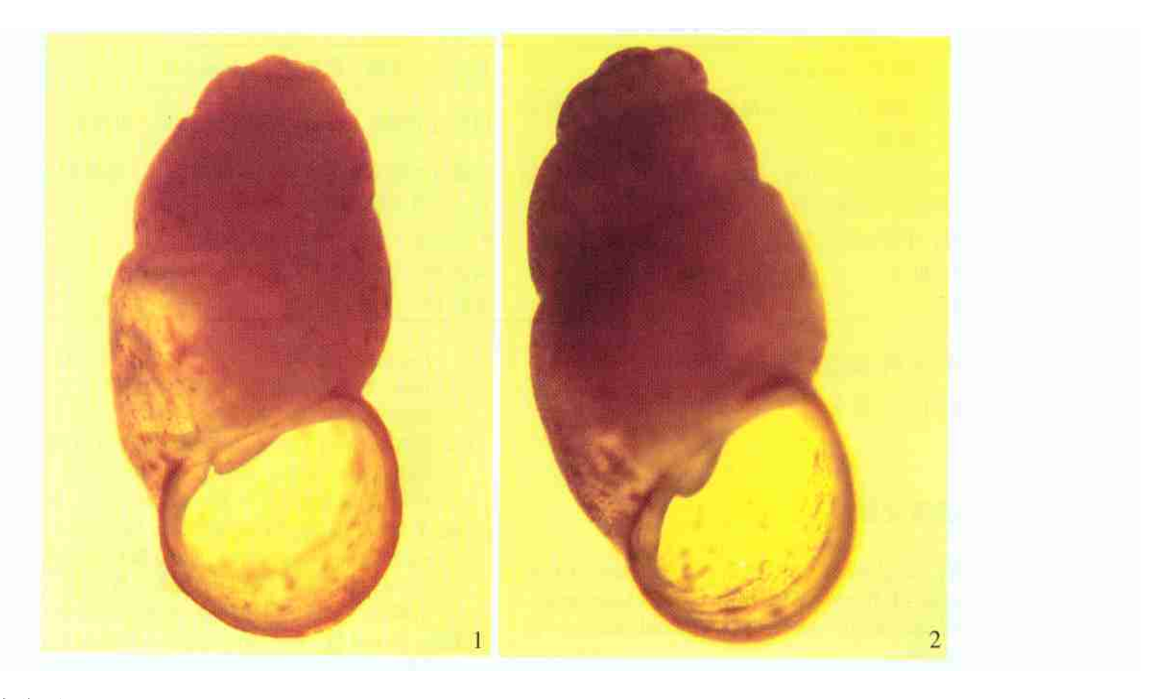


图 1~2　贝壳腹面观 (shells, ventral view)
1. 唐氏拟小豆螺，新种 *P. tangi* sp. nov.　　2. 建欧拟小豆螺 *P. jianouensis*

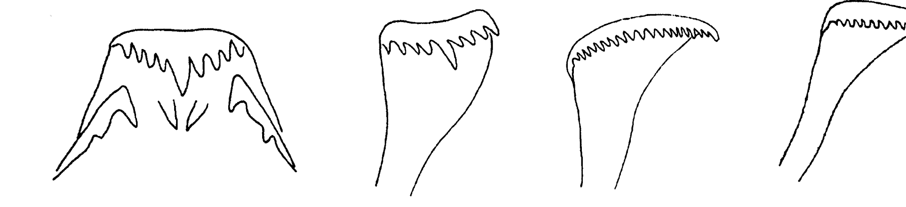


图 3　唐氏拟小豆螺齿舌形态模式图(由左至右：中央齿，侧齿，内缘齿，外缘齿)
Fig 3. Radula of *P. tangi* sp. nov. (Left to right: central teeth, later teeth, inner marginal teeth, outer marginal teeth)

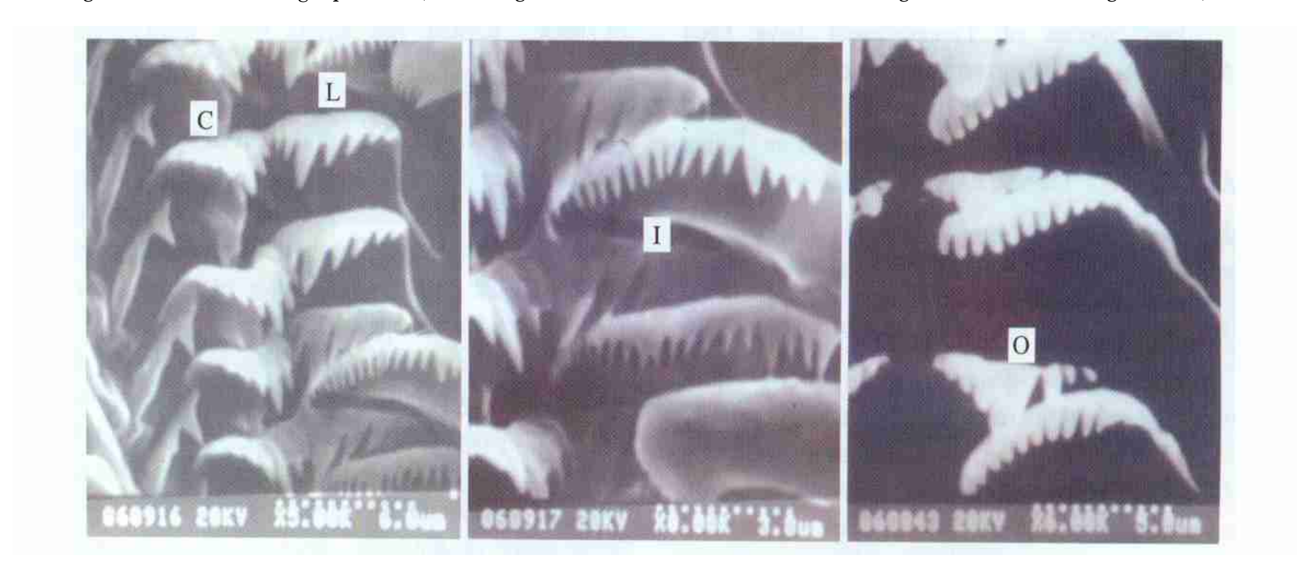


图 4　唐氏拟小豆螺齿舌扫描电镜下形态(示中央齿 C，侧齿 L，内缘齿 I，外缘齿 O)
Fig. 4. Radula of *P. tangi* sp. nov. (Showing central teeth, later teeth, inner marginal teeth, outer marginal teeth)

表 1 唐氏拟小豆螺与建瓯拟小豆螺形态特征比较

特征	建欧拟小豆螺 *P. jianouensis*	唐氏拟小豆螺，新种 *P. tangi* sp. nov.
壳口	内唇中部一侧有 1 枚突起的峰状齿；上缘前端与外缘相接处有 1 钝角	内唇近中部有 1 裂缝，将内唇分为长、短两隆脊状齿。
中央齿	上缘 5 枚大小相近的尖齿；下缘两侧各有 2 枚连体基底齿，中央有 1 枚基底齿	上缘有 9 枚尖齿，中央 1 尖齿粗长；下缘两侧各有 1 枚梳耙状基底齿，中央 2 枚基底齿
侧齿	9 个尖齿，中央 1 尖齿宽大	9 个尖齿，中央 1 尖齿尖长
内缘齿	尖齿 26~ 30 个	尖齿 19~ 22 个
外缘齿	尖齿 30 个	尖齿 13~ 15 个

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REFERENCES (参考文献)

Davis, G. M., Guo, Y, Hoagland, K. E. *et al*. 1985. *Erhaia*, a new genus and new species of Pomatiopsidae from China (Gastropoda: Rissoacea). Proceedings of the Academy of Natural Sciences of Philadelphia. 137: 48-78.

Davis, G. M., Chen, G-E, Kang, Z-B *et al*. 1994. Snail hosts of *Paragonimus* in Asia and America. *Chinese Journal of Parasitology and Parasitology*, 12 (4) 279-284. [Davis, G. M., 陈翠娥, 康在彬等, 1994. 亚洲和美洲的并殖吸虫的螺类宿主. 中国寄生虫学与寄生虫病学杂志, 12 (4) 279~ 284]

Liu, Y-Y, Zhang, W-Z and Wang, Y-X 1993. Medical Malacology. China Ocean Press, Beijing. 24-75. [刘月英, 张文珍, 王耀先, 1993. 医学贝类学. 北京: 海洋出版社. 24~ 75]

Liu, Y-Y and Zhang, W-Z 1979. On New genus and species of freshwater snails harbouring cercariae of lung flukes from China. *Acta Zootaxonomica Sinica*, 4 (2): 132-135 [刘月英, 张文珍, 1979. 携带肺吸虫尾蚴的螺类一新属二新种记述. 动物分类学报, 4 (2): 132~ 135]

Zhang, X and Qi, Z-Y 1961. Outline of Malacology. Sciene Press, Beijing [张 玺, 齐仲彦, 1961. 贝类学纲要. 北京: 科学出版社]

A NEW SPECIES OF PSEUDOBYTHINELLA (MESOGASTROPODA, POMATIOPSIDAE) FROM CHINA

CHENG You-Zhu[1], WU Xiao-Ping[2], LI Li-Sha[1], LIN Chen-Xin[1]
1. *Fujian Provincial Center for Disease Control and Prevention*, *Fuzhou* 350001, *China*
2. *College of Life Sciences*, *Nanchang University*, *Nanchang* 330031, *China*

Abstract *Pseudobythinella* (Hydrobiidae) was described by Liu (1979) with type species collected from Fujian Province, China. Based on the shell and anatomy data, Davis (1985) put all the species of *Pseudobythinella* distributed in China into the Family Pomatiopsidae. Up to now, four species of *Pseudobythinella* have been discovered in China. The present paper deals with a new species of *Pseudobythinella tangi* from Fujian Province, China. All the type specimens are deposited in Fujian Provincial Center for Disease Control and Prevention.

Pseudobythinella tangi **sp. nov.** (Figs. 1, 3-4)

Shells are minute, thin, ranging in height from 1.54-1.64 mm. They are conic-shaped with $3\frac{1}{2}$ whorls. Whorls increase gently in width. Body whorl and penultimate whorl increase rapidly in height. Body whorl is obviously expended. Apex obtuse, shell thin with light gray or yellow-brown color, juvenile with light color and adult darker. Weak growth lines are on shell surface. The eye spots on head are visible through the shell, suture distinct. Aperture is ovate, peristome continous and with dark surrounding. Umbilicus is narrow and small behind the columella edge. Operculum elongate oval, corneous, thin, transparent, and with unconspicuous spiral line. Near the middle of inner lip, a jag divides the lip into two pieces of ridged teeth.

The penis is curved finger-shaped, lie on the dorsa of neck. Radula has seven rows teeth. The most commonly encountered cusp formula is $\frac{4\cdot-1-4}{1-2}\cdot 4-1-4\cdot 19-22\cdot 13-15$. Central teeth have 9 cusps and two pieces of dentiform basocones on each side of the base, and there are two basocones on the tongue of central teeth. Later teeth have 9 cusps. The inner marginal teeth average 19-22 cusps, while outer marginal teeth clearly have fewer, an average of 13-15.

Locality and habitat. Type locality of the new species is in Qianchun Village, suburb of Sanming City, Fujian Province (26° 08′ N, 117° 40′ E). Snails were collected from a small ditch with water flowing from seepage. Bottom of the ditch is rock, dead wood, and snails attach on the rock, dead wood and leaves.

The diagnosis features of new species and similar species were given in Table 1.

Table 1. Diagnosis features of P. jianouensis **and** P. tangi **sp. nov.**

	P. jianouensis	*P. tangi* sp. nov.
Aperture	One pronounced swelling tooth on the middle of inner lip; an obtuse at the juncture of anterior of inner and outer margin of aperture	Near the middle of inner lip, a jag divides the lip into two pieces of ridged teeth
Central tooth	5 cusps in same size and one basocones on the tongue of central tooth	9 cusps with thicker and longer middle one, two basocones on the tongue of central tooth.
Later tooth	9 cusps	9 cusps
Inner marginal tooth	26-30 cusps	19-22 cusps
Outer marginal tooth	30 cusps	13-15 cusps

Key words Pomatiopsidae, *Pseudobythinella*, new species, China.